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Restoring Lake Tahoe's Ecosystem

U.S.D.A., NAL

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LOGGING PREP

Lake Tahoe Basin Management Unit

*We Are Committed To Caring For The Lake Tahoe Basin By
Working Together*

Planning For The Future

The Lake Tahoe Basin Management Unit (LTBMU) is one of three agencies that have begun large scale planning efforts. The Tahoe Regional Planning Agency (TRPA) is embarking on updating and revising the TRPA Regional Plan and Environmental Thresholds; the Lahontan Regional Water Quality Control Board (RWQCB), will be developing the Lake Tahoe TMDL (Total Maximum Daily Loads); and the LTBMU will be revising the Land and Resource Management Plan. Other agencies with a role in the development of these plans include California Air Resources Board, Nevada Division of Environmental Protection, and U.S. Environmental Protection Agency.

another, agencies have joined together to create a working group known as Pathway 2007. Executives and staff of the Pathway 2007 agencies have been meeting over the past year and have begun to coordinate research, budgets, and timing of these plans. The goal of the group is to align environmental goals among the different Lake Tahoe Basin agencies and develop an integrated and cohesive set of planning documents.

In addition to the plans being updated by the Pathway 2007 efforts, the group is determining how to integrate the Environmental Improvement Program (EIP), Tahoe Integrated Information Management System (TIIMS), and the development of an Adaptive Management Strategy, which are key to the plans.

As an effort to coordinate and integrate planning efforts with one-

LTBMU Managers Juggle Projects And Funding

LTBMU managers are in the process of determining which projects will be implemented with anticipated funding this year.

The LTBMU is reviewing EIP projects slated to be implemented this year as well as other National Forest management activities. They will be

prioritizing and balancing projects based on expected funding. Included in the mix of projects are those projects deferred to support national fire suppression costs in 2003 and projects identified on the Lake Tahoe Restoration Act Project List

- **Pathway 2007**
- **Blackwood Creek Project**
- **2003 EIP Project Accomplishments**
- **2003 Budget**
- **EIP Employee Awards**

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Blackwood Creek Restoration, A Big Step Towards A Better Tahoe



The photo above shows sediment entering Lake Tahoe in the area of Ward and Blackwood Creeks during the storm runoff event of 1997

A major water quality and EIP project (#27), is underway that will help reduce nutrient and sediment flow into Lake Tahoe. Blackwood Canyon, located north of Tahoe Pines on the West Shore, has been identified as the number one contributor of nutrients and sediment to Lake Tahoe for its size.

For a century, Blackwood Canyon has been logged, grazed, mined and quarried. "In the past, everything that could possibly be done to corrupt a creek and watershed was done to Blackwood" according to Jeff Reiner, LTBMU Ecosystem Restoration Supervisor. As a result of all the disturbance, Blackwood Creek has for decades, been the single greatest source for its size, transporting silts and algae feeding nutrients into the lake.

After many years of planning and design, the restoration of seven miles of the nine-mile long Blackwood Canyon watershed is

underway. The project is a comprehensive ecosystem restoration project. Not only will the creek system be restored, but habitat, forest health, fisheries health, and soil quality will be restored as well.

The projects planned in Blackwood Canyon will restore the ability of the creek to create a natural path and establish the watershed and vegetation that has been lost. One of the first steps is to remove a concrete creek crossing and other water flow barriers constructed many years ago. These altered the natural flow of the creek, and with it, the canyon ecosystem. The obstructions have been a significant factor to the environment causing erosion on the banks and large stored up loads of silt from hillside run-off. Chaotic movements of water across the floor each spring have carried the stored silts and undesirable nutrients to the lake.

Planning and design is now under way for the removal of the low water crossing located around two miles up the road from Kaspian. The flat concrete ramp constructed across Blackwood Creek concentrates water flow through a large culvert. This culvert has an effect on water flow, something like a fire hose. The plans are to replace the low water crossing with a 150-foot span bridge. This new bridge will allow the creek to flow smoothly and normally beneath it.

Blackwood Creek Restoration (Continued)

In addition to the low water crossing, other concrete obstructions were installed including a diversion with a fish ladder. As time has progressed, the fish ladder has become more of a hindrance than a help to the fish. The work to remove the fish ladder structure was completed this year.

As soon as the obstructions are removed, restoration crews will use a variety of techniques and methods to re-introduce the vegetation patterns and soil conditions needed to restore

the natural stream dynamics that have been lost over the years. These efforts will restore the ability of the creek to resist damaging erosion and run off.

Like most restoration work, the benefits from the work within Blackwood Canyon will take time to become evident. The advantages to the Lake Tahoe environment and lake water quality will in the long run, be quite significant, and a big step towards a better Lake Tahoe environment.

EIP Project 27

Phase I

The Removal Of The Fish Ladder



From this...



...to this



Lake Tahoe Basin Management Unit FY 2003 EIP Projects Accomplishments

The LTBMU was instrumental in implementing over 60 EIP project during 2003. This years projects were in various stages of implementation ranging from planning and design to completion and monitoring. Funding of the projects came from various sources including authorizations under the Lake Tahoe Restoration Act

| EIP Project Number | Project Name | Project Accomplishments |
|--------------------|---|--|
| 967.2 | Adaptive Management Monitoring—Roads | Conducted risk reassessments and Best Management Practices evaluations of 40 miles of roads upgraded in the last 5 years |
| 580.1 | Adaptive Management Monitoring —Vegetation Management | Conducted Best Management Practices evaluations on 17 sites |
| 10163 | Adaptive Management Framework | Contributed to the Adaptive Management Science panel |
| 406 | Angora Creek Stream Restoration | Cooperative effort with El Dorado County to complete design on 10 acres |
| 10080 | Aspen Community Restoration | Identified, mapped, assessed, and categorized 2,461 acres of aspen stands from Fallen Leaf Lake to Tahoe City |
| 27 | Blackwood Creek | Closed shooting range to begin restoration on 50 acres |
| 27.6 | Blackwood Creek, Headlands | Seeded and mulched 5 acres |
| 27.7 | Blackwood Creek, Fish Ladder | Construction complete on 100 acres |
| 27.8 | Blackwood Creek, Crossing | Planning underway for 50 acres |
| 27.9 | Blackwood Creek, Channel Design, Phase III | Planning and design underway for 200 acres |
| 1007 | BMP Facilities Retrofit | 100% completion of recreation resident surveys |
| 400 | Cold Creek/High Meadows Assessment | Began assessment of 1,000 acres |
| 409.1 | Burke Creek Channel & Crossing | Planning underway for 20 acres. TRPA is the lead |
| 10133.1 | Cookhouse Stream Channel Analysis | Contract completed for 1000 acres |
| 10163.8 | South & East Shore Landscape Assessments | South Shore analysis underway |
| 10128.2 | Lonely Gulch Stream Channel Restoration | Construction complete on 20 acres |

Lake Tahoe Basin Management Unit FY 2003 EIP Projects Accomplishments (Continued)

| EIP Project Number | Project Name | Project Accomplishments |
|---------------------------|--|---|
| 588 | Osprey Surveys | Conducted surveys in collaboration with TRPA and California State Parks and documented 27 active nests (14 incubating, 1 with young) |
| 588.2 | Osprey Education | Purchased specialized equipment and assessed potential sites for video camera set up |
| 10163.2 | Urban Lot Biodiversity Study | Provided funding to UNR for the study and provided PSW support for data collection |
| 10163.48 | Multi-Species Inventory and Monitoring | Data collection and dataset preliminary analysis complete. |
| 24 | Ward Creek Stream Restoration | Planning underway on 2,000 acres |
| 24.3 | Ward Creek Floodplain | Monitoring complete for 10 acres |
| 10184 | Noxious Weed Abatement | Surveyed, mapped, and hand controlled 300 sites totaling 75 acres |
| 10154 | Tahoe Integrated Information Management System (TIIMS) Support | Continued funding contribution to TRPA |
| 10044 | Tallac Creek Wetland Restoration | Started design on 400 acres |
| 10178.203 | Slaughterhouse EA | Awarded the planning contract |
| 906.1 | Meiss Cutthroat Improvement | Removal of competing brook trout in 4 miles of stream |
| 906.2 | Fallen Leaf Lake Cutthroat Improvement | Removal of competing brook trout in 20 acres of lake |
| 10123 | Prescribed Fire Effects | Funded UNR to complete data collection |
| 587 | Assess Relationship of OHV & Sensitive Wildlife habitat | Surveyed and monitored 4 sensitive species near OHV/OSV use areas in California. Implemented 3 trail projects focused on minimizing species disturbances. |
| 343 | Waterfowl Monitoring | Completed surveys in 21 wetland sites with TRPA |
| 592 | Wildlife special Interest Species Map and Database | Updated NRIS and GIS database in collaboration with TRPA |
| 10159 | Implementation of Tahoe Yellow Cress Strategy | Completed 3 new protection structures and multi-agency survey |

Lake Tahoe Basin Management Unit FY 2003 EIP Projects Accomplishments (Continued)

| EIP Project Number | Project Name | Project Accomplishments |
|--------------------|--|--|
| 401105 | NRCS Soil Survey Update Assistance | Surveyed approximately 150 sites in the Desolation Wilderness and West Shore of Lake Tahoe |
| 520 | Potential Natural Vegetation Model (PNV) | Funded PNV classification |
| 379 | Study Rorippa Key Management Questions | Pilot experimental out planting of 900 yearling TYC plants in 4 fenced plots on FS lands & 600 on NV & CA State Parks. |
| 10135 | Uncommon/Rare Plant Community Mapping | In coordination with TRPA, developed vegetation disturbance monitoring protocols and established plots on 6 rare threshold plant communities |
| 10179.03 | Prescribed Broadcast and Pile Burning | Completed 1,300 acres of pile burning |
| 10176.203 | Quail Environmental Assessment | Awarded a contract for the environmental assessment |
| 10175.03 | North Shore Hazardous Fuels Mechanical Treatment | Completed mechanical treatments on 600 acres |
| 10183.303 | Urban Lot Management | Completed 217 acres of mechanical treatment on 389 urban parcels |
| 10176.103 | West Shore Hazardous Fuels Mechanical Treatment | Completed mechanical treatments on 737 acres |
| 10183.03 | Land Acquisitions | Acquired 1,853 acres (High Meadows) for \$29,000,000 |
| 640.7 | Marlette Dam Removal | 50 acres riparian habitat complete |
| 10125 | Fallen Leaf Cutthroat Hatchery | 2003 Hatchery operations completed |
| 967 | Road Decommissioning & Upgrades | 1 mile of decommissioning and 6 miles of upgrades |
| 965.041 | Armstrong Tail Bridge | Upgraded bridge to standards |
| 965.042 | Beaver Trail Bridge | Upgraded bridge to standards |
| 967.153 | Columbine Road Bridge | Upgraded bridge to standards |
| 967.154 | Saxon Road Bridge | Upgraded bridge to standards |
| 967.155 | Trout Road Bridge | Upgraded bridge to standards |

Lake Tahoe Basin Management Unit FY 2003 EIP Projects Accomplishments (Continued)

| EIP Project Number | Project Name | Project Accomplishments |
|--------------------|--------------------------------------|---|
| 967.152 | Oneidas Crossing (2) | Upgraded bridge to standards |
| 967.112 | Pope Beach BMP Upgrades | 3 acres of BMP upgrades |
| 967.117 | Inspiration Point BMP Upgrades | 1/4 acre of BMP upgrades |
| 10100 | Stateline lookout Vista Enhancements | Removal of buildings and installation of platforms |
| 10056 | Trail and Road Compliance Officers | 5,000 visitor contacts made |
| 967.17 | Road and Trail Re-vegetation | Contract awarded for the period of August 2003-August 2004 |
| 1007.2 | Tallac Historic Site Restoration | Replaced one-6 unit toilet building and building stabilization |
| 967.033 | Blackwood Stream Crossing | Geo-technical site investigation |
| 401046 | Erosion Control Grants | Awarded \$2.6 million in 19 separate storm-water improvement grants |

LTBMU Investment Summary for FY 2003

| Description | EIP Programs | Non EIP Programs | Fire Transfers | Total |
|---|--------------|------------------|----------------|--------------|
| NFIM; Inventory & Monitoring | \$429,000 | | | \$429,000 |
| NFRW: Recreation | \$254,000 | \$1,590,000 | | \$1,844,000 |
| NFWF: Wildlife & Fisheries Habitat | \$114,000 | \$413,000 | | \$527,000 |
| NFVW: Vegetation & Watershed Management | \$3,643,000 | \$281,000 | \$104,266 | \$3,819,734 |
| NFLM: Landownership Management | \$457,000 | \$131,000 | \$90,000 | \$498,000 |
| WFHF: Hazardous Fuels | \$2,174,000 | \$255,000 | \$534,000 | \$1,895,000 |
| CMRD/CMTL: Roads & Trails | \$2,058,000 | | | \$2,058,000 |
| Land Acquisition | \$29,000,000 | | | \$29,000,000 |
| SPEA: Erosion Control Grants | \$2,552,000 | | \$30,000 | \$2,522,000 |
| Other Programs | | \$3,949,000 | \$576,523 | \$3,372,477 |
| Totals | \$40,681,000 | \$6,619,000 | \$1,334,789 | \$45,965,211 |

The Fall 2002 EIP Implementation Award Presented to Gail Durham

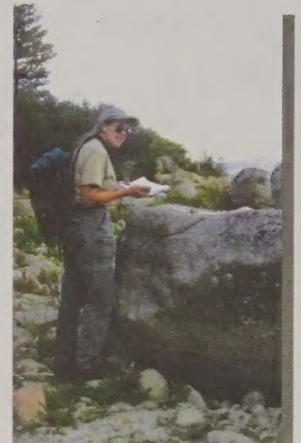
The Lake Tahoe Restoration Act (LTRA), the EIP, and the Sierra Nevada Forest Plan Amendment (SNFPA) have placed emphasis upon native plant communities, rare and sensitive plants, and noxious weeds. Gail Durham, LTBMU Botanist, has not only provided the expertise in these fields for the LTBMU, but has developed and implemented programs that have emphasized their importance in the management of the LTBMU's ecosystems.

Gail's efforts have enabled the LTBMU to develop plans for the attainment of the Lake Tahoe Basin's desired conditions, with respect to plant communities and watershed restoration. Her dedication and outstanding efforts, her role in the

development of the Tahoe Yellow Cress Management Strategy and implementation protection measures will ensure the continued existence of this sensitive plant on the shores of Lake Tahoe.

Gail has been with the LTBMU for over two years. She began her career with a Degree in Renewal Resources from University of Nevada, Reno. She served as a Resource Specialist for the Natural Resources Conservation Service, in Gardnerville for 14 years. She then moved to the Nevada Division of Forestry in Carson City where she served as the Seed bank and Stewardship Coordinator for three plus years prior to joining the LTBMU.

EIP Projects 10135 & 379



Gail Durham, LTBMU Botanist surveys the first known population of Tahoe Yellow Cress and the only known population growing in a rock formation at Lake Tahoe.

Dan O'Halloran Receives Award For Urban Intermix Parcel Management

Dan has been working for the Forest Service, LTBMU since 1991 and in the Urban Intermix Parcel Management Program as a Forestry Technician since 1992. Dan is best known for his skills as a Class "C" Faller, being called upon to cut down the larger more difficult hazard trees in the urban intermix.

The LTBMU initiated the Urban Intermix Parcel Management Program in 1991 to address management needs on urban parcels acquired under the Santini/Burton Acquisition Program. The Forest Service manages urban intermix

parcels as undeveloped open space for the purpose of preserving the hydrologic function and conserving natural forest conditions in the urban setting.

Dan O'Halloran's dedication and commitment to his work is a key factor to the successful accomplishment of over 200 acres of hazardous fuels reduction work completed on urban intermix EIP projects in FY 2003.



Dan O'Halloran assesses hazard trees on one of the urban intermix parcels.

EIP Project #1083.203

Ecosystem Restoration Group Receives 2003 EIP Team Award For Blackwood Creek



Jeff Reiner, Jim Howard, and Craig Oehrli, awarded for their team effort on EIP project #27

Jeff Reiner, Jim Howard, and Craig Oehrli, received the 2003 EIP Implementation Team Award for their combined efforts leading to the successful implementation of the Blackwood Creek Ecosystem Restoration Project.

According to Jeff Reiner, Ecosystem Restoration Supervisor "Jim and Craig were invaluable in the design and beginning construction of the Blackwood Watershed ecosystem restoration project. They completed the NEPA process efficiently and without complications. Their unrelenting efforts in the development and coordination of the construction specifications led to on-the-ground project completion without any changes. Importantly, they spent considerable time on site in the construction of the first phase of the restoration project. This produced a project that met all construction specifications and was completed ahead of schedule and on budget."

Jim started working for the LTBMU in June of 2001. He started as a restoration hydrologist and was soon promoted to Watershed Restoration Supervisor. Jim worked as a Restoration Hydrologist at Redwood National Park for four years before joining the LTBMU. He received a Bachelor of Science Degree in Forestry from Humboldt State University and a Master's of Environmental Management from Duke University.

Craig began his career with the LTBMU in June of 1995, as a biological technician working on stream channel and aquatic habitat assessment. During this period he was an undergraduate student in geology at California State University, Sacramento. After he received his Bachelor of Science Degree in geology, he was selected as a temporary geologist with the LTBMU. Craig entered the graduate school of geology at Humboldt State University. After completion of his Master's of Geology, Craig was selected for a Fluvial Hydrologist position with the Ecosystem Restoration Group.

Jeff has been an employee of the Forest Service for 27 years. He began his career on the Beaver Head and Bosie National Forests as a Hydrologist, Fisheries Biologist and a Restoration Specialist. He then went to the Sawtooth National Recreation Area and served as the Stream Flows and Fisheries Specialist and worked on grazing issues. He joined the LTBMU staff in 1984.



Lake Tahoe Basin Management Unit

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WE'RE ON THE WEB!

<http://www.fs.fed.us/r5/ltbmu>

FY 2003 has been an exciting and eventful year for the LTBMU. We have implemented over 60 EIP projects this year. Of particular notice are the accomplishments in our hazardous fuels program. Crews completed prescribed fire and vegetation treatment on approximately 2,800 acres, 150 acres over the target for the year.

We had outstanding accomplishments in our Ecosystem Conservation Program and Engineering Programs as well. In addition to work on Blackwood Creek, our specialists are working hard to restore and protect our fragile environment as you will see by the accomplishment report.

We are looking forward to even more exciting accomplishments in FY 2004. We will begin updating our Land and Resource Management Plan and will continue to do our part in implementing projects to restore and protect our environment.

Maribeth Gustafson
Lake Tahoe Basin Management Unit Forest Supervisor



*A Message From
The
Forest
Supervisor*

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